



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL WEATHER SERVICE
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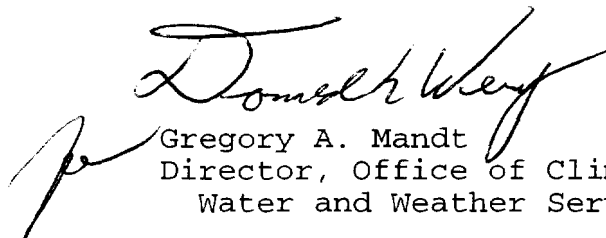
Dear Ms. Salas:

Thank you for the opportunity to comment on the Federal Communications Commission (FCC) Notice of Proposed Rule Making, EB Docket No. 01-66 to amend Part 11 of the Commission's Rules regarding the Emergency Alert System (EAS). The proposed changes will make the EAS more effective in communicating warnings for extreme weather events.

The National Weather Service (NWS) supports most changes and would like to see them implemented rapidly. Though we have improved our ability to detect, predict, and warn for extreme events, lives cannot be saved unless warnings are received in time to take protective action. EAS and the NWS' NOAA Weather Radio (NWR) are two systems in place today to provide this service. Both do a good job. Both could do a better job. The proposed changes will enable EAS and NWR to work together to speed warning delivery to our citizens.

Enclosed are our comments and recommendations on the proposed rule changes. I urge the Commission to consider our comments and to implement the rule changes as quickly as possible.

Sincerely,


Gregory A. Mandt
Director, Office of Climate,
Water and Weather Services

Enclosure

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NATIONAL WEATHER SERVICE

Comments and Recommendations for Notice Of Proposed Rulemaking Regarding the Emergency Alert System EB Docket No. 01-66, RM-9156, RM-9215

June 1, 2001

The National Weather Service strongly urges adoption of the proposed changes in the Notice of Proposed Rulemaking (NPRM) with the following comments, suggestions, and corrections.

Paragraph 8.

The description of the naming convention proposed by the NWS is fundamentally correct but the reasons for the proposed changes are incomplete. It is very important the NOAA Weather Radio (NWR) Specific Area Message Encoding (SAME) technique and Emergency Alert System (EAS) be downward (and backward) compatible with regard to consumer products (devices) using these code systems. The proposed naming convention would provide greater flexibility in the creation of consumer products, while ensuring downward compatibility.

Despite the vision of the system managers, there is no way to ensure any list of event codes addresses all required applications. The need to add new event codes will remain a possibility. New event code integration into EAS equipment in radio, TV and cable systems should be relatively simple and low-cost because of the equipment software design. There is a low number of EAS equipment locations and those locations are well known to system managers. It is not possible, however, to integrate entirely new three-character event codes into the existing hundreds of thousands of consumer products already in use today or of the millions of such products anticipated in coming years.

Adoption of the proposed naming convention allows an algorithm in EAS consumer devices to check the third character of any event code not in the device-resident list for a W, A, E, or S (a capability similar to that of existing NWR receivers with SAME decoder today). Upon detection of a W, A, E, or S, an EAS device would, at a minimum, be able to generate a generic notification with the intended alert level. The NWS adopted this naming convention in the NWR SAME specification prior to the manufacture of the first NWR receivers with SAME decoder capability (hereafter, NWR SAME weather receivers). The NWS believes all such receivers are currently equipped with this capability.

The NWS does not endorse disseminating Statements via EAS in EAS's current or proposed form. This is based on several years of experience and input from warning system partners, disseminators and consumers. The EAS is by definition an "Alerting" system for events for which there is an identified public safety risk. It is not an information delivery system. Statements, by definition, contain significant change information or follow-up information to a previous alert message. Statement codes likely found their way into the original EAS rules because they were included in an initial set of codes developed for the NWR SAME technique and never intended for widespread alerting or alarm purposes. The Statement codes could be retained for future use as a "message type" event code if text or other format(s) are developed and approved.

Paragraph 9.

The NWS recommends adopting the suggested naming convention, including the revision of the existing event codes for Tornado Warning (TOR), Severe Thunderstorm Warning (SVR) and Evacuation Immediate (EVI) to TOW, SVW and IEW, respectively. For reasons explained below, transition to the three revised event codes should occur on a predetermined national implementation date when use of the existing three character codes would cease and use of the revised codes would commence.

In Paragraph 9 the statement "NWS has the capability to transmit both the existing codes and the revised codes for these three events" is in error. The NWR SAME protocol, just as the EAS protocol, is limited to assigning only one event code to a message. NWR SAME systems cannot encode two codes in the same message header. Enabling this capability would require a major change in the NWR SAME and EAS protocol, forcing major software modifications to the NWS SAME encoder system and the EAS equipment. Such a change would render all existing weather receivers built to the NWR SAME specifications incapable of decoding these critical life threatening messages. The NWS does not support nor recommend such a major change to the EAS (and NWR SAME) protocol.

The NWS noted the proposed code revision to TOW, SVW and IEW in the NWR SAME specification after the NWS first proposed these changes in 1997. All NWR SAME weather receiver manufacturers known to the NWS have installed both the existing and proposed revised codes as part of the device-resident event list in anticipation of this change. When the change to the three listed event codes is officially adopted, EAS equipment manufacturers would add the new codes, if they have not already, to the existing ones prior to the implementation date. Upon implementation, the old event codes would be dropped in subsequent production. This could be done automatically with a time and date activated software routine in the EAS equipment.

While it may appear that not revising these event codes would have no adverse consequences, it is not unreasonable to conclude that inaction now may result in reduced future applications, complications, and significant costs for changes. Incorporating these event code changes now should be easy and inexpensive as part of any EAS equipment software upgrade.

Paragraph 11.

The NWS supports the addition of the recommended event codes except as noted in comments below. Many of the new codes enhance public safety. For example, event codes for Special Marine Warning (SMW), Tropical Storm Watch (TRA), and Tropical Storm Warning (TRW) were missed in the initial EAS rules for warnings covering oceanic, Gulf of Mexico, and Great Lakes near shore and open waters areas. Another missed event code was for Dust Storm Warnings (DSW), especially important in the southwest United States.

The NWS has resisted unilaterally implementing these event codes for the NWR SAME system to avoid the adverse impact it would have on operators of broadcast stations and cable systems when EAS equipment alarms for event codes not currently authorized for EAS use. The consequences of not implementing these codes places an unnecessary and increasing risk to public safety. The number of people owning NWR SAME weather receivers has increased significantly in recent years. Indications are the rate of ownership will continue to increase.

Due to the increasing number of people not getting these messages, the NWS must use these and other new event codes as soon as possible.

Several of the new proposed “event” codes have no emergency or alert functions. These fall into two primary classifications, “administrative” codes and NWR system non-emergency “message” codes. EAS’s primary function is to alert the general population to life or property threatening events. The NWR goes well beyond this role by providing continuous broadcast of alerting and non-alerting messages. For these reasons, three classes of message codes are required: (1) a class of codes for hazard messages that would be shared by both systems and addressed in the EAS rules, (2) a class of codes that would perform system administrative functions, some with common application to both EAS and NWR and some with unique and separate application to each, addressed as appropriate in the EAS rules and, (3) a class of codes for non-alerting messages broadcast over the NWR only and not addressed in the EAS rules. The event code changes discussed in Paragraph 11 can be easily managed by adopting the proposal discussed in Paragraph 24.

The administrative class of codes is needed now to provide a method to control individual NWR transmitter systems. Many NWR transmitter stations are a significant distance from the NWS programming office. To improve the reliability and cost effectiveness of these stations, it is sometimes necessary to have more than one transmitter share a program line. The only reasonable way to control these systems is by using unique SAME header codes.

The non-alerting class of codes will allow the NWS to insert an NWR SAME header code before the “initial” or first NWR broadcast of all messages (forecasts, weather roundups, climate, etc.). This would enable further dissemination, mostly via automated methods, of such encoded messages through other public- and private-sector systems, increasing timely distribution of NWR sourced information.

Comments regarding specific event codes listed in the NPRM Appendix A, “Recommended Event Code List” follow.

DBW. NWS does not endorse adding the Event Code DBW (Dam Break Warning). The NWS, as part of its legislatively-mandated mission, issues Flash Flood Warnings and other messages for dam break emergencies based primarily on information provided by Federal, state and local land and water management authorities through agreements with appropriate agencies. Adding another code for the same event would create operational conflicts and possible public confusion during emergencies.

EVI. NWS recommends removing EVI (Evacuation Immediate) and replacing it with IEW (Immediate Evacuation Warning) to be consistent with the naming convention for all other messages of its risk or threat category.

LEW, LAE. NWS recommends adding LEW (Law Enforcement Warning) and LAE (Local Area Emergency).

MIS. NWS recommends not adding MIS (Missing Child Statement). Instead, NWS recommends adding MPE (Missing Person Emergency) or MCE (Missing Child Emergency) to be consistent with the recommended naming convention. Alternatively, this type message could be locally agreed to and covered under LAE (Local Area Emergency).

TOM. NWS recommends not adding TOM (911 Telephone Outage Message). Instead, NWS recommends adding TOE (911 Telephone Outage Emergency) to be consistent with the recommended naming convention. Alternatively, this type of message could be locally agreed to and covered under LAE (Local Area Emergency).

NPW, NPM. NWS recommends not adding NPW and NPM (Nuclear Power Plant Test Message and Warning). The combination of Radiological Hazard Warning (RHW) and Required Weekly/Monthly Test (RWT/RMT) with the special geographical code (CCC) for the specific facility uniquely defines this as a warning or test message for a specific nuclear power plant or other type of radiological facility. A separate code for nuclear power plants is redundant and unnecessary.

SCS. The NWS does not endorse adding SCS (School Closing Statement) as an alerting message. If it is to be an alerting message, NWS recommends adding SCE (School Closing Emergency) to be consistent with the recommended naming convention. Alternatively, this type of message could be locally agreed to be covered under LAE (Local Area Emergency).

ADR, DMO, TXP, TXB, TXO, TXF. The NWS recommends placing ADR, DMO, TXP, TXB, TXO, and TXF codes into a class of codes that perform system administrative functions, some with common application to both EAS and NWR and some with unique and separate application to each, addressed as appropriate in the EAS rules. These six listed codes are used internally by the NWS for NWR dissemination or administration and control. Upon adoption of the proposal in Paragraph 24, independent use of the codes by the NWS would not result in any adverse effect on EAS equipment and operators.

FFS, FLS, SPS, SVS, SPS, SVS. The NWS recommends placing FFS, FLS, SPS, SVS, SPS, and SVS codes into a class of codes for non-alerting messages broadcast over the NWR only and not addressed in the EAS rules. The six listed codes are non-alerting messages broadcast over the NWR. Upon adoption of the proposal in Paragraph 24, independent use of the codes by the NWS would not result in any adverse effect on EAS equipment and operators.

TOR, SVR, TOW, SVW. The NWS strongly recommends replacing the existing codes TOR and SVR (Tornado Warning and Severe Thunderstorm Warning, respectively) with TOW and SVW, respectively, to conform to the naming convention for alerting messages and to ensure EAS and NWR downward compatibility with existing and future consumer products.

Paragraph 12.

The NWS is strongly opposed to EAS use of cancellation codes. This would double the number of required codes. It would also increase the potential number of “broadcast interrupting” messages unless additional unspecified rules addressed how cancellation messages would be processed and broadcast. EAS is an “Alert” system, not an informational system. EAS should provide the public with an initial notification that a hazard exists in their area. Once alerted, the recipient should monitor “information” sources for further details and updates on the hazard. Most “alerting” messages broadcast over EAS and NWR systems have short valid times. Messages with longer valid periods created for display from a direct translation of the EAS Header Codes can be easily adjusted by a user selected decoder algorithm. The burden of managing these types of applications should not be placed on the encoder, but on the decoder and applications algorithm.

Paragraph 14.

The NWS strongly recommends adding the requested location codes to cover marine areas. We must use the new location codes with the new marine event codes as soon as possible for the public’s safety in the near shore and open waters. It should be easy and inexpensive to include these location codes as part of any EAS equipment software upgrade. Upon implementation of the proposal in Paragraph 24, any message with location codes not specifically selected for processing by local EAS equipment would be ignored by the equipment with no adverse effect.

Paragraph 15.

The NWS recommends addition of a location code for the entire United States. Use of the 000000 location code is the logical choice because it fits with the geographic coding concept already in use for states and counties. Zeroes in the CCC part of the code are, by definition, place holders for “all” or an “unspecified” area defined by the SS part of the code. It follows that zeros for the SS part of the header code would be defined as “unspecified” or “all” states. The NWS also recommends subdividing the “entire country” code into up to 9 portions (or regions) through the use of the P part of the geographic code. For example, an EAS message for the northwest states, similar to what happened with Mt. Saint Helens volcano, could be uniquely identified using the P part of the geographic code. The northwest states could be encoded, for example, 100000, the south central U.S. could be 800000, the mid-Atlantic states 600000, etc.

Paragraph 16.

The NWS recommends the conversion of an “entire country/state” or “partial country/state” location code to all EAS equipment-resident county codes for retransmission. A software instruction could be added to EAS equipment decoders, or alternatively encoders, to check an incoming event code. If it finds a match with a national geographic code (entire or subdivided), the EAS equipment software would include all the EAS equipment-resident local geographic codes in the header code of its retransmitted message. Communicating the boundaries of a multi-state region to the public would be quite difficult, whereas informing broadcasters and CATV system managers in the region(s) they serve would be simpler. Algorithms could be developed for use in EAS equipment in the regional boundary areas to correctly identify and process messages received with a partial country location code applicable for only a portion of the local service area. In addition, the NWS also recommends a similar conversion methodology for “entire state” and “partial state” location codes.

The end result of broadcasting only the state or county FIPS codes to consumer products would make it much easier for consumers to properly program the products, ensuring effective distribution of messages to those at risk.

Decisions regarding this feature should not be based on whether there is an awareness "...of any significant number of consumer devices which rely upon EAS transmissions of broadcast stations and cable systems." Since there is no requirement to register or seek permission to build and market such products, there is no way to know if such products are currently in use. For EAS to achieve its maximum benefit we should encourage the development, marketing and widespread use of such consumer products. Many more consumer products should be expected.

It is worth noting the NWR system may play a greater role in the future as a Local Primary (LP) station for many remote areas where radio, TV, or CATV stations cannot monitor an LP1 and LP2 station. We should consider NWR stations in the future automatically relaying national or regional event messages the same way an EAS station does.

Paragraph 17.

The NWS recommends the use of any combination of the standard alphabet and numbers and the * (asterisk) symbol in the "CCC" portion of the location code. NWR stations are being recognized by managers of "special facilities" as a reliable and cost effective way to provide the specialized alerting and notification required by law or regulation. The application of these codes, in addition to the standard FIPS codes, would have no effect on EAS equipment if the proposal outlined in Paragraph 24 is adopted. Expanding the allowable characters in the geographic code blocks to include numbers and letters, plus the *, could be relatively straightforward, since this does not change the existing EAS protocol format.

Although there is no specified upper limit of the EAS equipment storage capacity for verbal messages, the generally accepted default has become two minutes based on the current EAS rule stating "not less than two minutes." Two minutes is not an unreasonable limit for the alerting part of the message. Anything greater than two minutes would normally be considered follow-up information. For this reason, use of a combination geographic code would make both the EAS and special information delivery method more efficient.

Receiving devices are available today for use in locations where warning and follow-up instructions are required by law or regulation. Specific instructions to affected persons regarding sheltering in place, evacuation routes, or remote shelters can be stored in the receiver in both text and audio formats for a variety of potential scenarios. Activation of the receiving devices and a specific "scenario" message can be accomplished by encoding a unique character combination geographic code in the message header code. Use of the combination codes together with the normal FIPS codes would ensure the widest possible notification to those in the special alerting zones and those in adjacent areas via the EAS without unnecessarily overwhelming both systems.

While the NWS supports a text format, it does not fit within the configuration of existing EAS equipment and would require significant modification of the current protocol. A text-only format would not provide a universal service since it does not address the needs of the visually impaired. The SBE suggested text methodology could also significantly increase the cost of

products required for placement in homes, businesses, and other institutions in the alerting zones. A complete EAS message in a text format would require a considerable amount of transmit time at the current EAS baud rate. A significant amount of time would be needed to study, develop and test the new format and protocol, further delaying other important upgrades in this NPRM.

Paragraph 19.

The NWS does not now recommend revision of the originator code from WXR to NWS. The revision was more feasible when it was first proposed before full implementation of EAS. The minimal benefit does not justify the work necessary to make the revision. The existing WXR code and the new NWS originator code cannot be used at the same time, for the same reasons stated in comments to Paragraph 9.

Paragraph 21.

An alternative method of creating new EAS codes and non-standard geographic or location codes that would enable use of the new codes on a timely basis is needed.

Any alternative method must include national oversight of the codes. A master list of approved codes for each code type should be maintained and published as changes occur. The lists should be consulted prior to the development of any new codes to prevent duplicative use of codes and proliferation of new codes when codes already exist for a particular use. National coordination of codes is especially important to ensure consistent application of EAS codes and location codes for agencies and organizations with multi-jurisdiction and multi-state responsibilities.

Paragraph 24.

The proposed changes in this Paragraph are the most critical to improving the effectiveness of both the EAS and NWR. The NWS strongly recommends adoption of rules that would permit EAS equipment to display or log receipt of only messages with event codes and accompanying location codes for which the equipment is programmed to process and those optionally set by the equipment operator.

Existing EAS equipment, based on an interpretation of the current EAS rules, logs the receipt of all messages received regardless of the source. Likewise, most EAS equipment performs some alert notification of these messages and a more enhanced notification requiring operator intervention if the equipment receives an event code not in the currently approved list, even if it is not selected for processing. Retaining this form of logging will severely restrict future improvements for both the EAS and NWR.

The primary objective of the logging requirement was to create a "paper trail" for EAS messages that are to receive local action. EAS equipment responding to codes not in the currently approved list or to unique geographic codes causes a wide range of unnecessary problems for operators of EAS equipment at radio and TV stations and CATV systems. It is especially problematic for unattended sites. For example, an LP1 station could transmit a message for the northern part of its service area. Stations to the south would "receive" that message but may wish to take no action because it does not apply to their service area. Under current rule interpretation the "unwanted" message must be logged.

The Paragraph 24 discussion suggests current EAS equipment cannot "...select only certain received EAS messages for processing." Indeed they can. What is not currently an option is the selective logging and alarming of messages not programmed for processing. Many of the problems with the operation of EAS equipment would disappear if the EAS equipment decoder is required to log ONLY those messages it was programmed to process and forward based on a match with the event code paired with a specific geographic code, and possibly from a specific user selected source. This would eliminate logging messages that do not apply to the stations's service area and events for which the station has decided not to rebroadcast. This would also allow the NWS, as discussed elsewhere, to broadcast a wide range of non-alerting messages with codes, conduct tests and exercises, and perform system administration and control without impacting the EAS stations monitoring NWR. Likewise, LP1 and LP2 stations would be able to broadcast a wider range of messages without impacting all the local area network stations down the line. Conversely, local stations would be able to participate more freely in local emergencies without impacting the LP1 and LP2 stations and others up the line.

Paragraphs 25 and 26.

The NWS strongly supports the SBE in the quest for an ability to transmit text information. We are willing to work with interested parties in developing and testing such a system.

The NWS does not, however, support integrating a text portion as part of the basic EAS verbal message. This would render existing consumer equipment unuseable and significantly complicate existing EAS equipment. As mentioned elsewhere, the EAS and NWR SAME must be downward compatible. Therefore, retention of the standard "End Of Message" (EOM) code NNNN is important.

There are a couple of alternatives to integrating the text into the basic message. To take advantage of the existing header code, a secondary EOM could immediately follow the NNNN such as DDDD or TTTT. Future EAS and NWR SAME decoders could be programmed with software to do a string search immediately following the NNNN for the DDDD or TTTT. If found, the software would then be designed to accept and process the text part of the message. Ancillary equipment could process this part of the message in a wide variety of applications. The use of separate text codes such as TOX or TOT for Tornado Warning Text might be a possibility but would ultimately double the number of event codes. There is some point where the number of event codes becomes unmanageable. If an EAS message were transmitted and contained only text, it could be transmitted using the standard EAS protocol but contain no verbal message. Following the EOM code, the enhanced EAS device would know to look for the DDDD/TTTT code and process the message in the normal manner. To prevent voice only systems from responding, an imbedded code at the beginning of the text, such as TTTT would tell the voice only systems this is a text message only and not go into a verbal (audio) storage mode.